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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,374	09/24/2003	Byoung-han Kim	1293.1850	4793
21171 7590 01/25/2007 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER DHARIA, PRABODH M	
			ART UNIT	PAPER NUMBER
			2629	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/25/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/668,374	<b>Applicant(s)</b> KIM, BYOUNG-HAN	
	<b>Examiner</b> Prabodh M. Dharia	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,8-11,16-19 and 25-27 is/are rejected.
- 7) ☐ Claim(s) 4-7,12-15 and 20-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. **Status:** Please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted on 12-06-2006 under request for reconsideration, which have been placed of record in the file. Claims 1-27 are pending in this action.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 8-11,16-19 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokui (5,987,532) in view of Casady et al. (4,759,009) and (Matsuzaki et al. (US 2002/0067318 A1).

Regarding Claims 1,3,8,10,11,15,16,18, 25, Tokui teaches a chained image display apparatus (U1-U4, figure 1-5, Col. 2, lines 52-67, Col. 3, Lines 33-36) comprising a plurality of image display apparatuses connected in series (figure 1, Col. 2, Lines 52-56, Col. 3, Lines 33-36) and controlled by a central control unit (#5 Figure 1, Col. 2, Lines 54-60), the chained image display apparatus (U1-U4, figure 1, Col. 2, Lines 52-56) comprising: a control signal driving unit converting a control signal inputted to the image display apparatuses into a control signal having a predetermined level (Col. 2, Lines 59-64) and buffering the control signal having the predetermined level (Col. 2, Lines 64-67, Col. 4, Lines 57-61).

However, Tokui fails to teach an examining unit transmitting an alert signal, in response to a power supply to one image display apparatus among the plurality of image display apparatuses being interrupted, to next and previous image display apparatuses which are connected to the one image display apparatus to which the power supply was interrupted, indicating that the power supply to the one image display apparatus is interrupted; the alert signal transmitted from examining unit transmit the alert signal to central unit; the connection unit connects a driving voltage output from the previous image display apparatus to the one image display apparatus having the interrupted power supply and transmits an image signal, which is buffered by the one image display apparatus having the interrupted power supply, to the next image display apparatus; transmitting the alert signal to the central control unit from the next and previous image display apparatuses; sending the alert signal to the examining unit from the control unit.

However, Casady et al. teaches an examining unit (Col. 5, Lines 45-47, Lines 54-60) transmitting (Col. 3, Lines 43-50) an alert signal, in response to a power supply to one image display apparatus among the plurality of image display apparatuses being interrupted (Col. 5, Lines 10-17), to next and previous image display apparatuses which are connected to the one image display apparatus to which the power supply was interrupted (Col. 5, Lines 17-58), indicating that the power supply to the one image display apparatus is interrupted (Col. 9, Lines 21-27, Lines 38-67); the alert signal transmitted from examining unit transmit the alert signal to central unit (Col.3, Lines 6-10, Lines 44-46); the connection unit connects a driving voltage output from the previous image display apparatus to the one image display apparatus having the interrupted power supply (Col. 4, Lines 40-43) and transmits an image signal, which is buffered

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(see figure 1, repeaters 22) by the one image display apparatus having the interrupted power supply, to the next image display apparatus (Col. 4, Lines 43-51) ; transmitting the alert signal to the central control unit from the next and previous image display apparatuses (Col. 5, Lines 10-58) ; sending the alert signal to the examining unit from the control unit (Col. 5, Lines 47,48, whole communication is achieved in loop configuration).

The reason to combine Casady et al. with Tokui to have a multiple display system connected in loop configuration communicating serially with time division multiplexing and be able to recognize alarming condition in one of the unit, alerting central unit; removing the disable unit temporarily; without disrupting communication; continue displaying information provided by central unit on rest of the working display units.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Casady et al. in the teaching of Tokui to be able to have multi-panel display system capable of recognizing service threatening condition such as power interruption and prevent loss of data to rest of the system by bypassing the disabled display temporarily until the power is restored to disabled display.

Tokui fails to teach an examining unit transmitting an alert signal, in response to a power supply to one image display apparatus among the plurality of image display apparatuses being interrupted, to next and previous image display apparatuses which are connected to the one image display apparatus to which the power supply was interrupted, indicating that the power supply to the one image display apparatus is interrupted.

However, Matsuzaki et al. teaches an examining unit (see figure 53 A-C, also figures 47,-49, page 17, paragraph 377, 390, page 18, paragraphs 390,391, page 19, paragraph 420, page 20,

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paragraphs 420, 431) transmitting a signal, in response to a power supply to one image display apparatus among the plurality of image display apparatuses being interrupted (page 26, Claim language 23, since the next master unit need to be determined it is an alert to all slave displays), to next and previous image display apparatuses which are connected to the one image display apparatus to which the power supply was interrupted (page 24, paragraph 492), indicating that the power supply to the one image display apparatus is interrupted (page 23, paragraphs 469-479, 482, 492,493); the alert signal transmitted from examining unit transmit the alert signal to central unit (page 26, Claim language 23, since the next master unit need to be determined it is an alert to all slave displays); the connection unit connects a driving voltage output from the previous image display apparatus to the one image display apparatus having the interrupted power supply (page 23, paragraphs 469-479, 482, 492,493) and transmits an image signal, which is buffered by the one image display apparatus (page 26, claim language 14, having the interrupted power supply, to the next image display apparatus (page 23, paragraphs 469-479, 482, 492,493) ; transmitting the alert signal to the central control unit from the next and previous image display apparatuses (page 23, paragraphs 469-479, 482, 492,493, page 26, claim language 23, since the next master unit need to be determined it is an alert to all slave displays) ; sending the signal to the examining unit from the control unit (page 23, paragraphs 469-479, 482, 492,493).

The reason to combine Matsuzaki et al. with Tokui to have a multiple display system connected in loop configuration communicating serially with time division multiplexing and be able to recognize alarming condition in one of the unit, alerting central unit; removing the disable unit temporarily; without disrupting communication; continue displaying information provided by central unit on rest of the working display units.

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Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Casady et al. in the teaching of Tokui to be able to have multi-panel display system capable of recognizing service threatening condition such as power interruption and prevent loss of data to rest of the system by bypassing the disabled display temporarily using relays (see figure 46-49) until the power is restored to disabled display without disturbing user's use due to interruption of the image data transfer and alert signal allows tyo continue operation by selecting new master for master/slave operation.

Regarding Claim 2, Tokui teaches each of the plurality of image display apparatuses further comprises: a portion receiving the control signal from the central control unit; and a buffer transmitting the received control signal to the next image display apparatus (figure 1-4, Col. 2, Lines 52-67, Col. 3, Lines 1-7, 33-36, Col. 4, Lines 57-61).

Regarding Claim 9, Tokui teaches the driving voltage output from the previous image display apparatus is provided to the next image display apparatus (Col. 3, Line 22 to Col. 4, Line 28, Col. 4, Lines 57-61).

Regarding Claim 17, Tokui teaches the driving voltage output from the previous image display apparatus is provided to the next image display apparatus (Col. 3, Line 22 to Col. 4, Line 28, Col. 4, Lines 57-61).

Regarding Claim 19; Tokui teaches each of the plurality of image display apparatuses further comprises: a portion receiving the control signal from the central control unit; and a buffer transmitting the received control signal to the next image display apparatus (Col. 3, Line 22 to Col. 4, Line 28, Col. 4, Lines 57-61).

Regarding Claim 26, Tokui teaches the driving voltage output from the previous image display apparatus is provided to the next image display apparatus (Col. 3, Line 22 to Col. 4, Line 28, Col. 4, Lines 57-61).

#### ***Response to Arguments***

4. Applicant's arguments, see remark, filed 12-06-2006, with respect to the rejection(s) of claim(s) 1-27 under non-final rejection mailed on 09-06-2006 have been fully considered and are not persuasive. The displays connected in serial connection receiving data sequentially is well known in the art. The financial industry used the (IBM) loop configuration communicating to concentrators to reduce disruption financial activities interactively. However, upon further consideration, and elaborate the above argument further; a new ground(s) of rejection is made Tokui (5,987,532) in view of Casady et al. (4,759,009) and Matsuzaki et al. (2002/0067318). Casady et al. (4,759,009) does teach plurality of displays associated with each terminal to display major and minor alarm system for user to act on.

5. In response to applicant's argument that Tokui (5,987,532) in view of Casady et al. (4,759,009) are not comparable as alarm system of Casady et al. and Tokui display system



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cannot be bodily incorporated, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

*Allowable Subject Matter*

6. Claims 4-7, 12-15 and 20-24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

A chained image display apparatus comprising a plurality of image display apparatuses connected in series and controlled by a central control unit, the chained image display apparatus comprising: a control signal driving unit converting a control signal inputted to the image display apparatuses into a control signal having a predetermined level and buffering the control signal having the predetermined level; and an examining unit transmitting an alert signal, in response to a power supply to one image display apparatus among the plurality of image display apparatuses being interrupted, to next and previous image display apparatuses which are connected to the one image display apparatus to which the power supply was interrupted, indicating that the power supply to the one image display apparatus is interrupted and **a connection unit receiving a voltage from the previous image display apparatus and supplying a supply voltage to the**

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one image display apparatus to which the power supply was interrupted; and a switching unit routing the alert signal to the next and previous image display apparatuses in response to the power supply being interrupted; wherein the switching unit comprises a first switching unit routing the alert signal to the previous image display apparatus, and a second switching unit routing the alert signal to the next image display apparatus and a control unit, wherein the control unit outputs a switching control signal controlling the first and second switching units; the control unit sends the alert signal to the examining unit.

The cited references on the 8982's fail to recite or disclosed above underlined claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hanari et al. (US 7,123,220 B2) Self-luminous display device.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668.

The examiner can normally be reached on M-F 8AM to 5PM.

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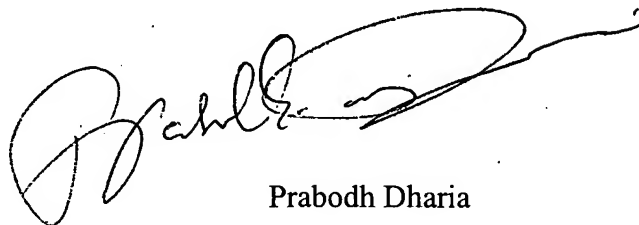
10. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

A handwritten signature in black ink, appearing to read 'Prabodh Dharia', is written over a horizontal line.

Prabodh Dharia

Partial Signatory Authority Program

AU2629

January 22, 2007